

**ABSTRACT**

Disclosed is a control system for a hydrogen addition internal combustion engine that uses hydrocarbon fuel and hydrogen gas as combustion fuel. The control system includes a canister 52 for adsorbing fuel vapor generated in a tank 34 for storing the hydrocarbon fuel; a purge VSV 66 for purging the fuel vapor into an intake port 18 of the hydrogen addition internal combustion engine in a predefined situation; hydrogen addition ratio setup means for setting the ratio of hydrogen gas addition to the hydrocarbon fuel; and hydrogen gas addition ratio adjustment means for increasing the ratio of hydrogen gas addition when the fuel vapor is purged into the intake port 18.